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# *No BTU's About It!* Energy Efficiency is Everyone's Business at DuPont

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# DuPont Today

- A 203 year-old global science company solving problems in ways that make people's lives better, safer, and easier
- 135 manufacturing plants, 80 R&D facilities in 70 countries
- 60,000 employees
- 2004 business results
  - \$27.3 Billion in Net Sales
  - \$1.8 Billion in Net Income
- Major business segments
  - Electronics & Communications Technologies
  - Coatings and Color Technologies
  - Performance Materials
  - Agriculture & Nutrition
  - Safety & Protection



DuPont Tyvek® Housewrap

# Familiar Products...



DuPont Suva® Refrigerants



DuPont Kevlar® Aramid Fiber



DuPont High Performance  
Air Filters



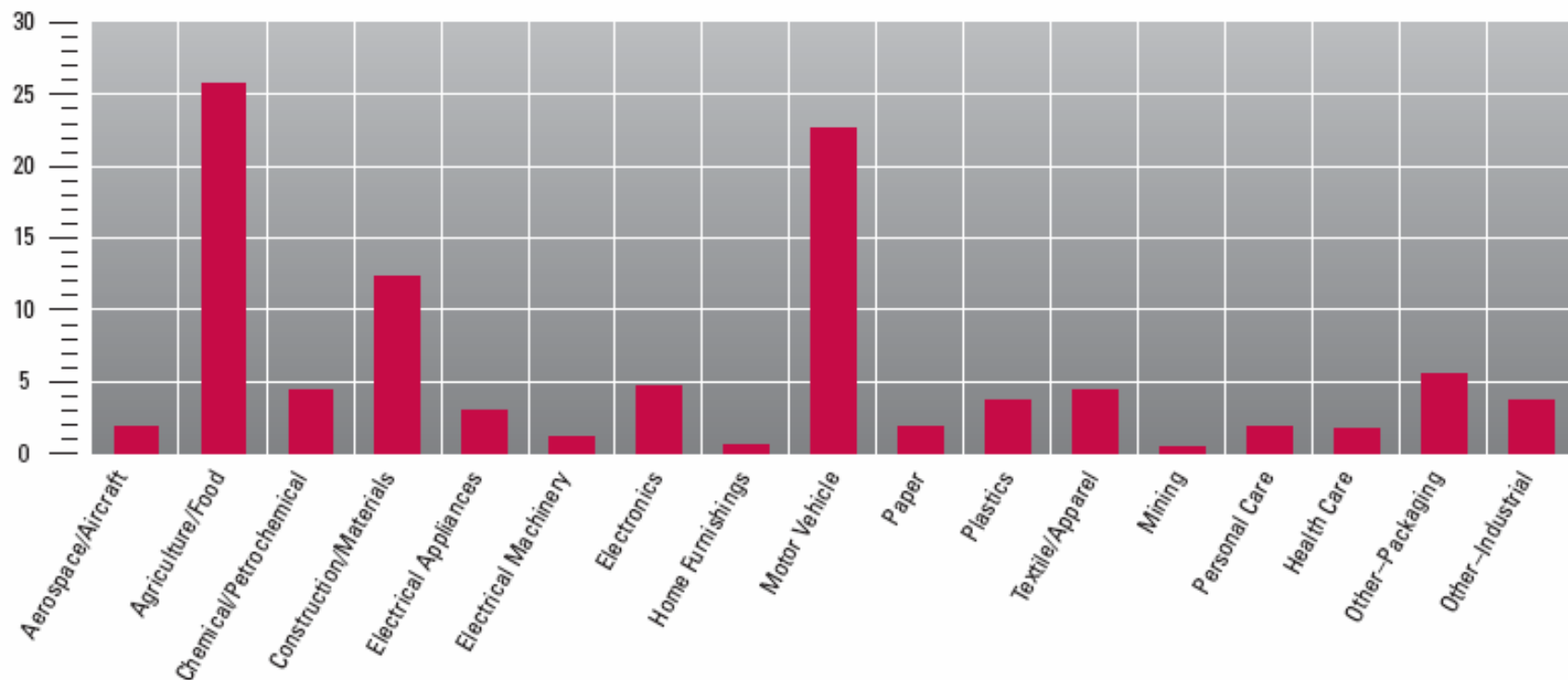
DuPont Corian® Surface Material



DuPont ChromaLusion®  
Automotive Finishes

# ...Across Many Markets

2004 Sales by Major Industry (% of total company)



# DuPont's Goal is “Sustainable Growth”

- We define “Sustainable Growth” as
  - Increasing shareholder and societal value...
  - While decreasing the footprint of our operations...
  - Along the value chains in which we operate
- We consider Sustainable Growth a **core value** like safety
- Core values drive behavior and actions to meet business objectives **and** core value goals
- Because we view **energy** use as part of our footprint, we've set goals to reduce it

# DuPont's Public Commitment on Energy

- We have committed to achieve the following by 2010
  - Hold total energy use **flat** versus a 1990 baseline
  - **Reduce** greenhouse gas emissions by 65% versus 1990
  - **Supply** 10% of total energy needs from renewable resources at a cost competitive with best available fossil derived alternatives
- These goals changed our approach to energy efficiency
- Efficient use of energy is now a **strategic** objective, not a tactic to cut costs in response to high prices

# “Flat” is a Tough “Mountain” to Climb

- Our most challenging goal is to keep energy use flat
- If you make **more** pounds, you’ve got to use **less** energy/lb
- Improving the energy efficiency of existing plants is tough
  - Energy use is dispersed among hundreds of discrete devices
  - Inefficiencies are usually invisible
  - Data required to pinpoint losses is frequently unavailable
  - On-site expertise to identify and make improvements is limited
  - Energy efficiency is not a product quality variable

# Motivating Plants to Use Less Energy

- Our plants must learn how to improve something that our customers generally don't care about: **energy efficiency**
- Rising energy prices and our focus on Sustainable Growth are providing the necessary motivation to work on it
- And we've taken a **strategic approach** to help them
  - Establish a “Center of Competency” to develop tools and share knowledge and best practices
  - Use Six Sigma to standardize improvement methodology
  - Appoint champions to lead assessments and implement “projects”
  - Engage Plant Managers to drive accountability for results

# The Energy Center of Competency

- Charter:
  - Build and maintain energy technology “competence”
  - And accelerate the application of expertise to improve competitiveness
- A collaborative effort between:
  - Corporate operations leadership
  - Unit operations leadership
  - Site technologists, operators, and technicians
  - Staff energy engineering specialists
  - In short, **anyone** involved in any aspect along the **energy value chain!**

# The Energy Center of Competency...

- Develops **Best Practices** that define a standard of excellence for energy efficient operations
- Helps plants assess their equipment and systems to **identify defects** that limit efficiency
- **Trains** operations personnel to develop competency in efficient energy use
- Provides **tools** and **resources** to help plants eliminate energy defects
- **Leverages** knowledge and successes to accelerate improvement

# Tools to Help Sites Identify Defects

- DuPont is committed to the Six Sigma methodology
- But Six Sigma can only help us reduce costs if site personnel can actually identify the defects in their energy systems
- Our Energy Center of Competency has developed several tools to help them find defects
  - Energy Efficiency Best Practices
    - Website documents over 200 common energy system defects
  - Energy Efficiency Analyzer
    - Excel spreadsheet quantifies the \$ value of common defects
  - Qualitative Energy Assessment Tool
    - Web-based survey to evaluate energy attitudes and behaviors

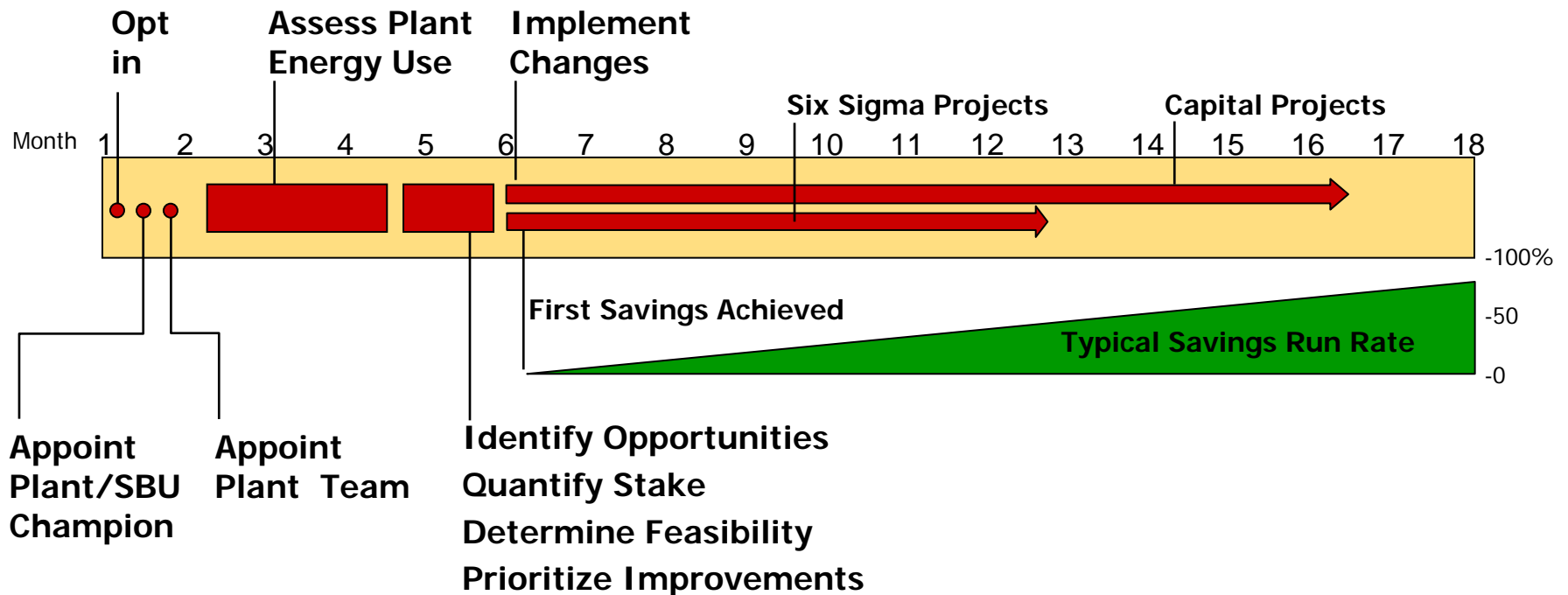
# Educating Personnel in Energy Basics

- Plant personnel must understand the “basics” of energy efficiency to recognize defects and use our tools
- We have developed several methods to educate our users
  - Virtual Workshops (“training without the travel”)
  - Comprehensive intranet website
  - 600-person e-mail distribution list
  - “Templates” for common Six Sigma projects
  - Bi-annual internal energy conferences

# Improving Plant Energy Efficiency

- Ambitious goals require ambitious commitment!
- Site Energy Champions are appointed to:
  - Coordinate local energy efficiency programs
  - Accelerate progress
  - Bring discipline to the improvement process
  - Ensure networking and leveraging of successful projects to corporation

# A Typical Plant Energy Efficiency Program



# The 2005 Energy Breakout Program

- Achieving “breakout” performance means:
  - Improving core value performance
  - Placing the customer at the center of everything we do
  - Executing faster and better than our competitors
  - Focusing intensely on what matters now (e.g., exceeding PO)
- Energy “Breakout:”
  - Initial goal was to **reduce** US Region energy costs by \$10MM ('05 vs. '04 actual costs)
  - **Driven** by the Plant Managers and their networks
  - Line management **accountable** to ensure results are achieved

# Energy Breakout Success

- Identification process:
  - ~300 projects
  - 40 sites
  - Goal raised to \$19MM
- Status:
  - \$14MM YTD savings from 146 projects
  - 4 sites have exceeded their targets
  - New opportunities continue to be identified
  - Projects totaling over \$30MM/yr in savings are now in database
  - Overall, we are on target to meet the \$19MM goal

# So How Are We Doing?

- Greenhouse gas emissions are **down 72%** from 1990 levels
- Total energy use is **down 9%** while production is up 30%
- Breakout projects have reduced costs over **\$14MM** in 2005
- Renewables now supply about **5%** of our total energy needs
- None of this would have been possible without
  - A **focus** on Sustainable Growth
  - **Goals** to reduce our footprint
  - Six Sigma to identify and eliminate energy efficiency defects
  - The commitment of **everyone** responsible for energy procurement, conversion, distribution, and utilization...
- Because energy efficiency **is everyone's business!**



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